

**B.Sc. (Part—II) Semester—IV Examination**  
**COMPUTER SCIENCE/COMPUTER APPLICATION/INFORMATION TECHNOLOGY**  
**(Old)**  
**(Advanced C++ and Web Designing)**

Time : Three Hours]

[Maximum Marks : 80

**N.B. :-** (1) **ALL** questions are compulsory.

(2) Question No. 1 carries 8 marks and all other questions carry 12 marks each.

(3) Assume suitable data wherever necessary.

1. (A) Fill in the blanks :

(i) \_\_\_\_\_ provides the concept of reusability.

(ii) An array name followed by two subscripts is called \_\_\_\_\_.

(iii) DTD stands for \_\_\_\_\_.

(iv) Namespace is declared with prefix is called as \_\_\_\_\_ namespace. 2

(B) Choose correct alternative :

(i) A pointer a variable that holds \_\_\_\_\_ of another variable.

(a) Value

(b) Memory address

(c) Data type

(d) None of these

(ii) Template provides :

(a) Reusability of code

(b) Eliminates redundant coding

(c) Support generic programming

(d) All are correct

(iii) If element does not contain any content then such element is called a/an \_\_\_\_\_.

(a) Root element

(b) Empty element

(c) Nested element

(d) Sibling element

(iv) \_\_\_\_\_ defines a class of xml documents.

(a) XML Schema

(b) Namespace

(c) DTD

(d) CSS 2

(C) Answer in one sentence each :

(i) What is derived class ?

(ii) What is pointer ?

(iii) What is element ?

(iv) What is CSS ? 4

2. (A) What is array ? Explain declaration and initialization of one dimensional array. 6

(B) What is operator overloading ? Explain with suitable example. 6

**OR**

3. (A) Explain pointer to object with suitable example. 6

(B) Write a program in C++ to overload assignment (=) operator. 6

4. (A) Explain multiple inheritance with suitable example. 6  
(B) What is function template ? Explain with suitable example. 6
- OR**
5. (A) What is class template ? Explain with example. 6  
(B) Explain hybrid inheritance with suitable example. 6
6. (A) Explain pointers to derived class with example. 6  
(B) Explain opening and closing of file with syntax and example. 6
- OR**
7. (A) Explain hierarchy of file stream classes. 6  
(B) What is virtual function ? Explain with suitable example. 6
8. (A) Explain the basic structure of XML document. 6  
(B) Explain the term XML element with example. State the naming rules for XML element. 6
- OR**
9. (A) Explain document prolog and document instance. 6  
(B) State and explain the features of XML. 6
10. (A) What is meant by DTD ? Describe the internal DTD with example. 6  
(B) What is entity ? Explain with suitable example. 6
- OR**
11. (A) Explain element content model with suitable example. 6  
(B) What is the need of DTD ? Describe the external DTD with suitable example. 6
12. (A) Explain various features of XML Schema. 6  
(B) Explain default and prefix declaration of namespace. 6
- OR**
13. (A) Compare XML Schema with DTD by giving suitable example. 6  
(B) What are the various XML Schema data types ? 6